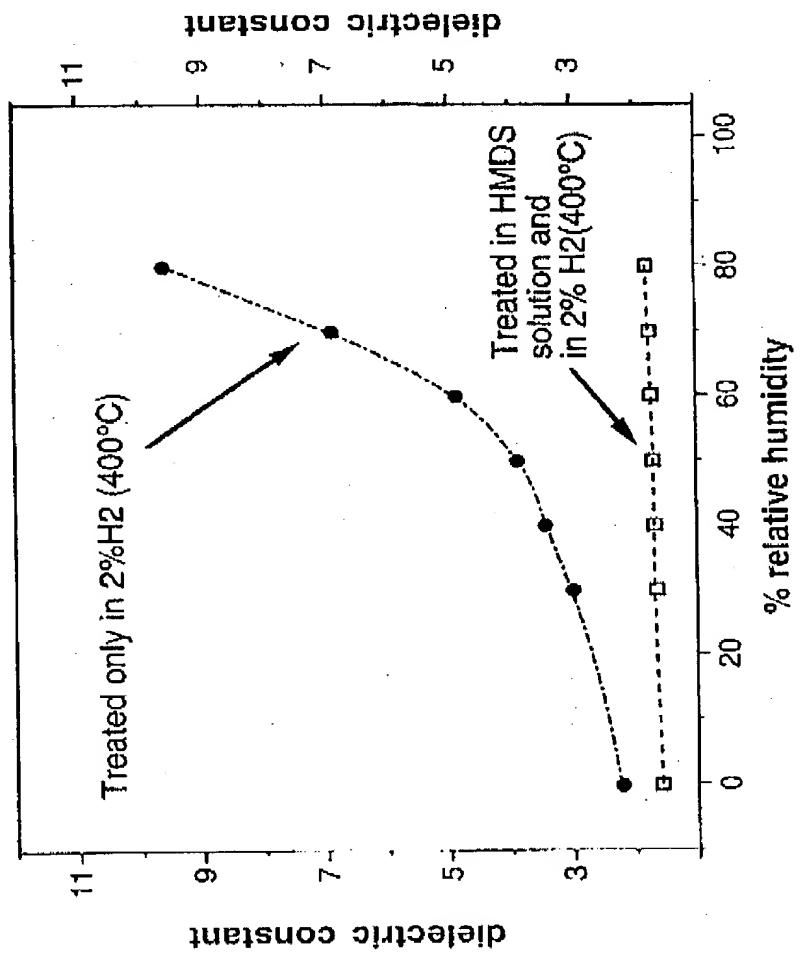
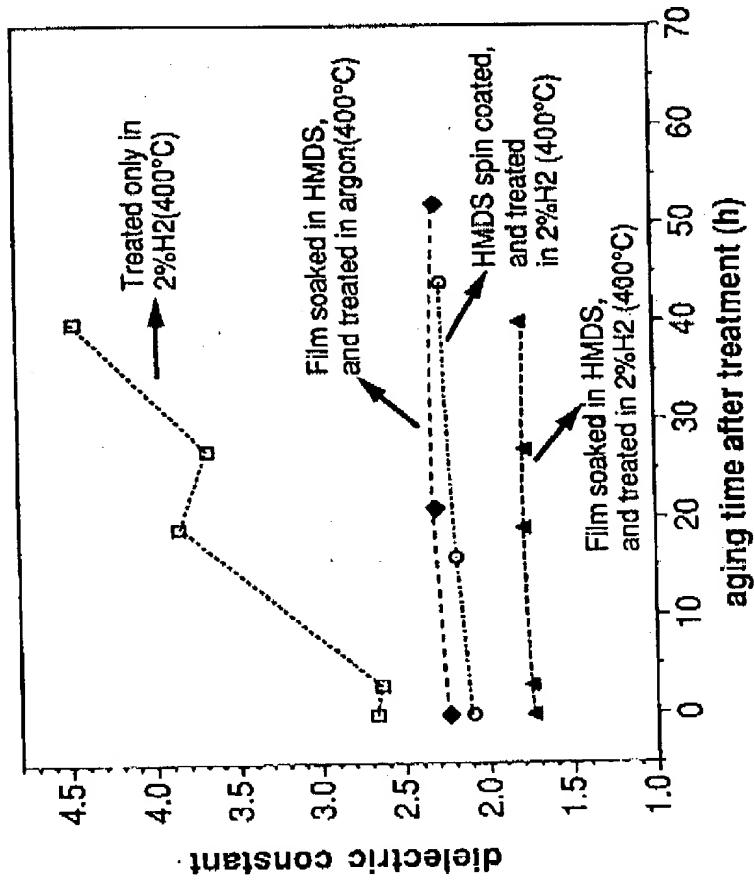


Dielectric constant of polyoxyethylene
ether-based films as a function of humidity

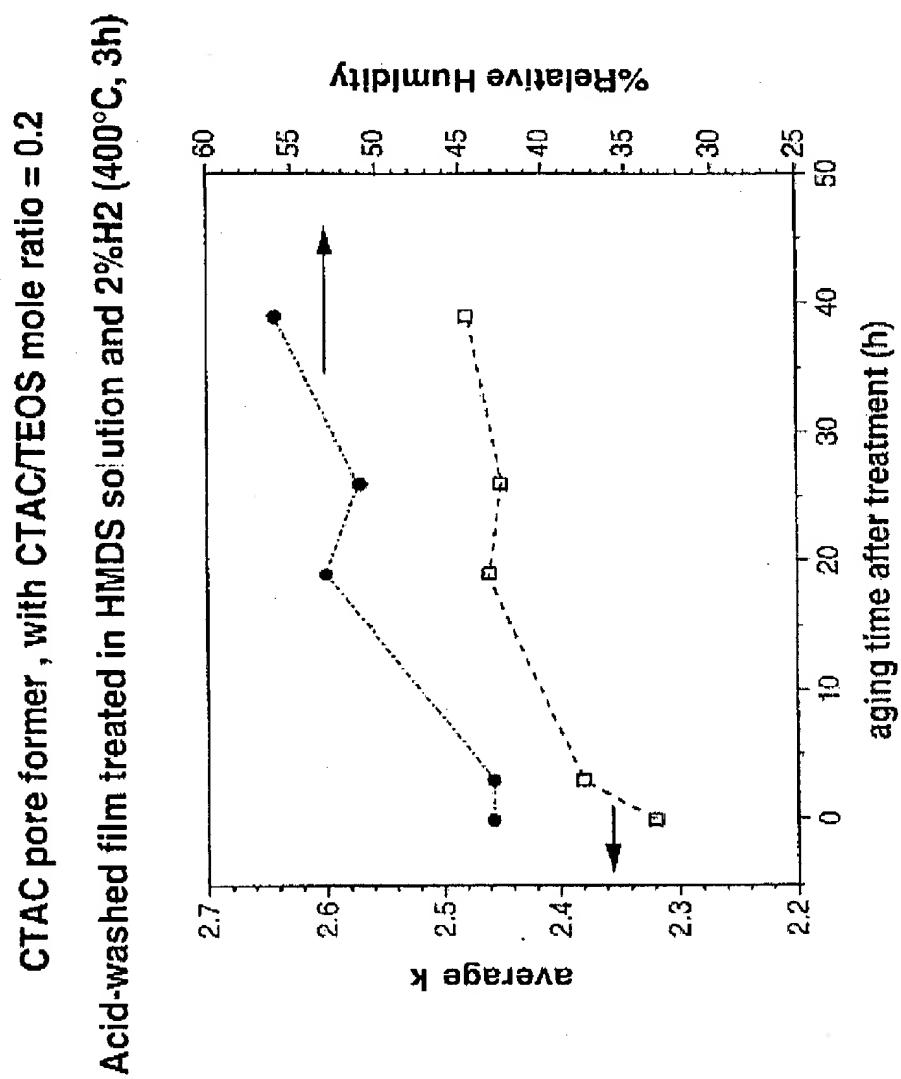


Dielectric constant for films with $k < 2.0$ increases
by $\approx 13\%$ with increase in humidity from 0 to 80%

**Dielectric constants in the range 1.8 to 2.5
obtained with polyoxyethylene ether surfactants**

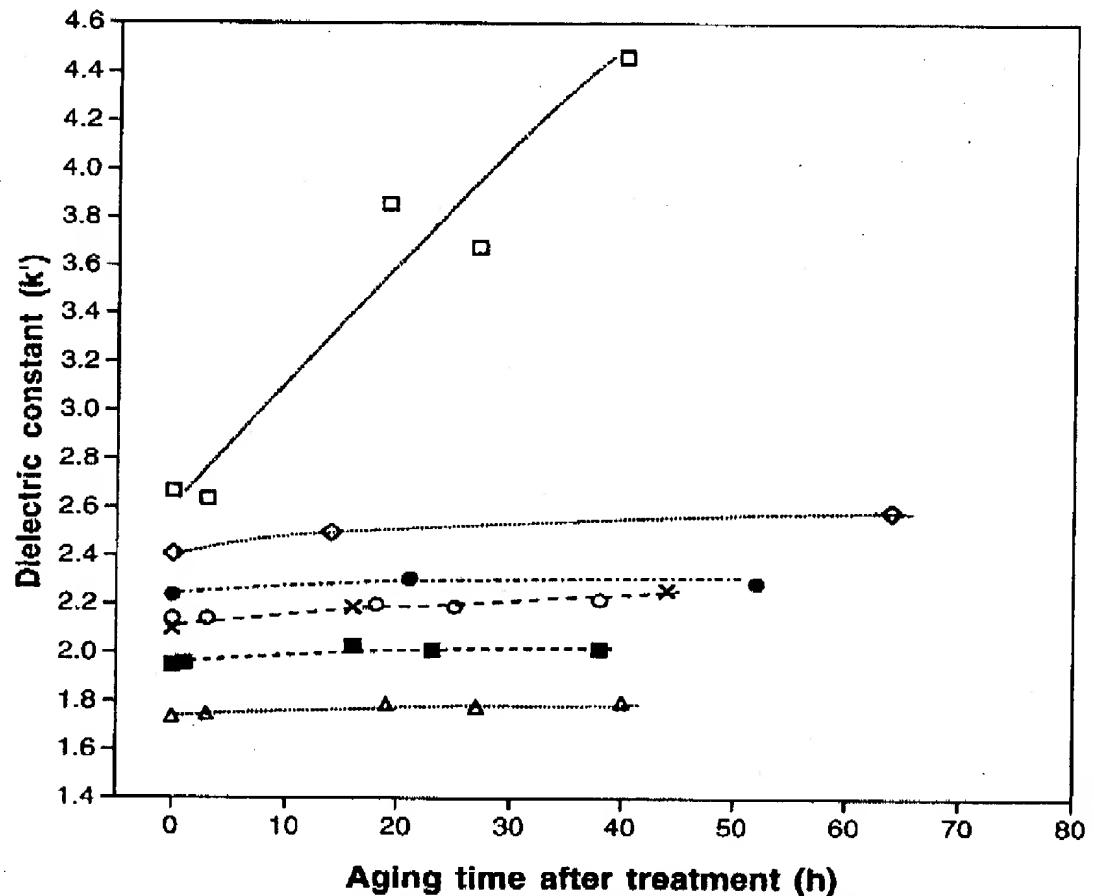


Dielectric constant very sensitive to dehydroxylation procedure



$k \approx 2.3$ measured in laboratory ambient

Figure 1: Dielectric constant of surfactant-templated silica films as a function of aging time under ambient conditions as a function of various treatments



- 2%H2,2h,400°C (103-2-1-B1)
- ◊ HMDS (L)>>2%H2,2h,400°C (XL-92-2)
- HMDS (L)>>2%H2, 2h,400°C>>HMDS(L) (103-2-I-A1)
- △ HMDS (L)>>2%H2, 2h,400°C>>HMDS(L)>>2%H2,2h,400°C (103-2-I-A2)
- HMDS (L)>> Ar,2h,400°C (103-2-1-B2)
- HMDS(L)>>Ar,2h,400°C>>HMDS(L)>>Ar,2h,400 (112-1-III-D2)
- ✗ HMDS spincoat>>2%H2,2h,400°C>>HMDS spin coat>>2%H2,2h,400°C (103-2-1-C1)

Exhibit D

inventors - signatures with dates

witnesses - signatures with dates